CLAIMS

What is claimed is:

1. A method for detecting *Salmonella* antigens in a sample, said method comprising the steps of:

combining said sample with a tracer and an anti-*Salmonella* antibody to form an assay mixture, said tracer comprising a fluorophore conjugated to an oligosaccharide from a *Salmonella* cell wall lipopolysaccharide, said tracer being able to bind to said anti-*Salmonella* antibody to produce a detectable change in fluorescence polarization; and

measuring the fluorescence polarization of said assay mixture to obtain a measured fluorescence polarization value, wherein said measured fluorescence polarization value is related to the concentration of *Salmonella* antigens in said sample.

2. The method of claim 1, wherein said fluorophore is fluorescein isothiocyanate, isomer I.

3. The method of claim 1, wherein said sample is a cultured sample.

4. The method of claim 1, wherein said sample is from a food product.

5. The method of claim 1, wherein said sample is from animal feces.

6. The method of claim 1, wherein combining said sample with a tracer and an anti-*Salmonella* antibody to form an assay mixture comprises:

combining said sample with said anti-*Salmonella* antibody to provide a blank mixture; and

combining said blank mixture with said tracer to provide said assay mixture.

7. The method of claim 6, further comprising:

measuring the fluorescence polarization of said blank mixture to provide a blank fluorescence polarization value.

8. The method of claim 7, further comprising:

subtracting said blank polarization value from said measured fluorescence polarization value to provide a blank-corrected fluorescence polarization value, wherein said measured fluorescence polarization value is related to the concentration of *Salmonella* antigens in said sample.

9. A method for testing for *Salmonella* contamination, said method comprising the steps of:

obtaining a sample containing *Salmonella* cells;

culturing said sample in a culture medium to provide a cultured sample;

autoclaving said cultured sample to provide an autoclaved sample;

combining said autoclaved sample with an anti-*Salmonella* antibody to provide a first mixture;

measuring the fluorescence polarization of said first mixture to obtain a first fluorescence polarization value;

combining said first mixture with a tracer to provide a second mixture, said tracer comprising a fluorophore conjugated to an oligosaccharide from a *Salmonella* cell wall lipopolysaccharide, said tracer being able to bind to said anti-*Salmonella* antibody to produce a detectable change in fluorescence polarization;

incubating said second mixture for a predetermined period of time;

measuring the fluorescence polarization of said second mixture to obtain a second fluorescence polarization value; and

subtracting said first fluorescence polarization value from said second fluorescence polarization value to obtain a corrected fluorescence polarization value, wherein said corrected fluorescence polarization value is related to the level of *Salmonella* contamination in said sample.

10. The method of claim 9, wherein said fluorophore is fluorescein isothiocyanate, isomer I.

11. The method of claim 9, wherein said sample is from a food product.

12. The method of claim 9, wherein said sample is from animal feces.

13. The method of claim 9, wherein said predetermined of period of time is at least four minutes.

14. An assay kit for testing for *Salmonella* contamination in a sample, said assay kit comprising:

an anti-*Salmonella* antibody and a tracer, each in an amount suitable for at least one fluorescence polarization assay to test for *Salmonella* contamination in said sample, packaging, and instructions for using said anti-*Salmonella* antibody and said tracer in said fluorescence polarization assay, said tracer comprising a fluorophore conjugated to an oligosaccharide from a *Salmonella* cell wall lipopolysaccharide, said tracer being able to bind to said anti-*Salmonella* antibody to produce a detectable change in fluorescence polarization.

15. The assay kit of claim 14, wherein said fluorophore is fluorescein isothiocyanate, isomer I.

16. The assay kit of claim 14, wherein said sample is a cultured sample.

17. The assay kit of claim 14, wherein said sample is from a food product.

18. The assay kit of claim 14, wherein said sample is from animal feces.